

What is claimed is:

1. A method of dynamically redeploying services in a computing network, comprising steps of:
  - receiving a redeployment trigger for a selected service;
  - determining one or more network locations where the selected service has been deployed from its original location at an origin server;
  - programmatically removing the selected service from the network locations and the origin server; and
  - programmatically replacing the selected service at the network locations and the origin server.
2. The method according to Claim 1, wherein the redeployment trigger comprises a redeployment request from the origin server.
3. The method according to Claim 1, further comprising the step of sending the redeployment trigger when the selected service is to be revised.
4. The method according to Claim 1, further comprising the steps of:
  - receiving client requests for the selected service;
  - serving the received requests from the network locations prior to receiving the redeployment trigger; and
  - serving the received requests using the replaced service after the programmatically

6 removing and programmatically replacing steps.

1 5. The method according to Claim 1, further comprising the steps of unpublishing the  
2 selected service after receiving the redeployment trigger, until completion of the programmatically  
3 removing and programmatically replacing steps, and then republishing the selected service  
4 thereafter.

1 6. The method according to Claim 2, further comprising the step of sending a subsequent  
2 redeployment request to each of the network locations, responsive to receiving the redeployment  
3 request from the origin server.

1 7. The method according to Claim 6, wherein the programmatically removing step further  
2 comprises the steps of:  
3 receiving the subsequent redeployment request at a selected one of the network locations;  
4 programmatically shutting down the selected service at the selected one, responsive to  
5 receiving the subsequent redeployment request; and  
6 programmatically removing executable code which implements the selected service from a  
7 run-time environment of the selected one, subsequent to the programmatically shutting down.

1 8. The method according to Claim 6, wherein the programmatically replacing step further  
2 comprising the steps of:  
3 issuing a deployment request for the selected service from a selected one of the network

4 locations;  
5 receiving a response message at the selected one of the network locations, the response  
6 message containing a replacement for the selected service; and  
7 deploying the replacement for the selected service at the selected one of the network  
8 locations.

1 9. The method according to Claim 8, wherein the deployment request comprises a service  
2 description of the selected service encoded in a standardized service description notation.

1 10. The method according to Claim 9, wherein the service description comprises an interface  
2 definition of a dynamic deployment service and an implementation definition of the dynamic  
3 deployment service.

1 11. The method according to Claim 10, wherein the dynamic deployment service resides on  
2 the origin server.

1 12. The method according to Claim 11, wherein the issued deployment request comprises a  
2 SOAP ("Simple Object Access Protocol") request.

1 13. The method according to Claim 11, wherein the issued deployment request comprises an  
2 XML ("Extensible Markup Language") Protocol request.

1 14. The method according to Claim 11, wherein the issued deployment request identifies the  
2 selected service.

1 15. The method according to Claim 11, wherein the issued deployment request provides  
2 information about run-time conditions on the selected one of the network locations.

1 16. The method according to Claim 8, wherein the replacement comprises executable code.

1 17. The method according to Claim 16, wherein the executable code is automatically adapted  
2 to the run-time conditions on the selected one of the network locations.

1 18. A system for dynamically redeploying services in a computing network, comprising:  
2 means for receiving a redeployment trigger for a selected service;  
3 means for determining one or more network locations where the selected service has been  
4 deployed from its original location at an origin server;  
5 means for programmatically removing the selected service from the network locations and  
6 the origin server; and  
7 means for programmatically replacing the selected service at the network locations and the  
8 origin server.

1 19. A computer program product for dynamically redeploying services in a computing  
2 network, the computer program product embodied on one or more computer-readable media and

3 comprising:

4 computer-readable program code means for receiving a redeployment trigger for a  
5 selected service;

6 computer-readable program code means for means for determining one or more network  
7 locations where the selected service has been deployed from its original location at an origin  
8 server;

9 computer-readable program code means for means for programmatically removing the  
10 selected service from the network locations and the origin server; and

11 computer-readable program code means for means for programmatically replacing the  
12 selected service at the network locations and the origin server.